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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/802,092	03/08/2001	Thomas J. Cloonan	7012	4937

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EXAMINER
MANNING, JOHN

ART UNIT	PAPER NUMBER
2614	

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Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/802,092	CLOONAN ET AL.
	Examiner	Art Unit
	John Manning	2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *11-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date *03-05-2002* .
    13

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____ .

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments filed September 23, 2005 have been fully considered but

they are not persuasive.

Applicant argues "As these passages make clear, Fijolek discusses bandwidth,

and values for other QoS parameters, available on connections between the CMTS and

the cable modem, not on the links between one of a plurality of ISPS and a CMTS."

The examiner interprets the disclosed cable modem to be the ISP, where the cable

modem provides Internet service to the subscriber.

Applicant argues "[a]s discussed above, the claims expressly relate to the links

between a plurality of ISPS and a CMTS. These links are physical links that have a

physical bandwidth maximum capacity. In contrast, not only do the channels referred to

in Vogel can't traffic between a cable modem and the CMTS, but channels are typically

a virtual entity rather than physical, inasmuch as a single physical link between a cable

modem and a CMTS typically carries multiple 6 MHz channels in a DOCSIS

communication system. Thus, the claim limitations are not found in either of the

references." In response to applicant's argument that the references fail to show certain

features of applicant's invention, it is noted that the features upon which applicant relies

(i.e., physical link) are not recited in the rejected claim(s). Although the claims are

interpreted in light of the specification, limitations from the specification are not read into

the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In response to applicant's argument that there is no suggestion to combine the

references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

Applicant states "there is not a likelihood of success in combining the reference teachings as cited by Examiner because, for one reason, the changing of links before a session is established as expressly claimed in claim 4 could not occur if changes were to be also made after establishment of a session. In addition, dynamically changing the links between an ISP and the CMTS **could** prevent the claimed invention from operating efficiently, or at all". However the Applicant offers no substantiation other than suppositional conjecture.

Applicant states "[the] Examiner bolsters this conclusion with the statement that switching to different channels based on randomness would provide dynamic load balancing. As discussed above, dynamic changing of links is not claimed." While dynamic changing of links is not claimed, dynamic changing of links is not precluded.

With regard to claims 5 and 14, Applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., CAC-like algorithms) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the

specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26

USPQ2d 1057 (Fed. Cir. 1993).

Applicant describes Fijolek and Allen and states, "the references do not disclose

the elements in the claim, nor do they teach or suggest the claimed features.

Accordingly, the claims patentably distinguish over the references, and withdrawal of

the rejection is respectfully requested." This statement amounts to a general allegation

that the claims define a patentable invention without specifically pointing out how the

language of the claims patentably distinguishes them from the references.

Applicant's arguments with respect to claims 7, 7, 15 and 16 have been

considered but are moot in view of the new ground(s) of rejection.

With regard to claims 6, 8, 15 and 17, Applicant argues, "Thus, all the elements

of the claims are not found in the references, nor is there a reasonable suggestion that

the references in combination would result in the claimed subject matter." Applicant is

direct to Col 7, Lines 61-63 of Selinger, where the QoS corresponds to the number of

dropped packets. The priority of the user determines the QoS.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3.   Claims 1 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by

Fijolek et al. (US Pat No 6,223,222).

In regard to claim 1 and 10, Figolek discloses a method and system for quality-

of-service in a data-over-cable system using configuration protocol messaging. The

claimed step of "receiving a request for bandwidth on a cable data system link for a first

ISP wherein the request is initated by a requesting subscriber" is met by Figures 18 and

19. "However, FIG. 18 illustrates a QoS server 332 used to determine whether CMTS

12 has available bandwidth to provide a specific quality-of-service request to a CM 16"

(Col 29, Lines 56-59). The claimed steps of "determining available bandwidth on said

cable data system link", "determining available bandwidth on the cable data system link

for the first ISP" and "comparing available bandwidth for said first ISP with the amount

of requested bandwidth" are also met by Figures 18 and 19. "The first network device

determines whether the second network device has enough available bandwidth to

establish the connection to the third network device with the specific quality-of-service

requested at step 340. The bandwidth determination includes a bandwidth

determination required for CoS, QoS and other parameters. If the first network device

has enough bandwidth to establish the connection to the third network device with the

specific quality-of-service at step 340, a bandwidth required for the specific quality-of-

service is subtracted from an available bandwidth for the second network device at step

342" (Col 33, Lines 42-53). The claimed step of "granting or denying cable data service

to the new subscriber based upon the determination of whether the available bandwidth

is greater than, less than or equal to the bandwidth to be allocated to the new

subscriber" is also met by Figure 18 and 19. "At step 344, a quality-of-service identifier

is assigned to the specific quality-of-service bandwidth requested. The quality-of-service

identifier is assigned based on bandwidth required CoS, QoS and other parameters.

The assigned quality-of-service identifier is saved on the first network device at step

346. The assigned quality-of-service identifier is sent to the second network device

indicating the second network device has enough bandwidth to allow the connection

with the specific quality-of-service requested at step 348. If the first network device does

not have enough available bandwidth to establish the connection to the third network

device with the specific quality-of-service requested by the third network device at step

340, a rejection is sent to the first network device at step 350" (Col 33, Lines 53-65; also

see Col 33-34, Lines 66-11).

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 2-4, 11 and 13 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Fijolek et al. in view of Vogel (US Pat No 6,742,187).

In regard to claim 2, 4, 11 and 13, Fijolek is silent on transferring the subscriber

to a different data channel with more available capacity when the requested channel is

less than the bandwidth to be allocated where the bandwidth is determined before the

transfer. Vogel teaches transferring a subscriber to a different channel with a greater

channel capacity when the available capacity on a channel degrades (and thereby is

less than the bandwidth requested). "As noted earlier in this document, when

impairments in the upstream channel from the cable modem to CMTS exist, cable

modem systems provide for the ability to change the upstream channel in which a given

cable modem uses to transmit. However, prior art methods involving the Upstream

Channel Change (UCC) message exchange are not deterministic, that is, the time

required for the change cannot be known in advance, therefore this method of operation

is inadequate for voice applications, such as Voice over Internet Protocol (VoIP)

applications, Internet telephony, Internet video on demand, or other time critical

services, where service can be lost by such delays or degraded below service quality

objectives. In addition, because of the potentially long time associated with the UCC

message exchange, dynamic load balancing becomes inefficient" (Col 13, Lines 10-25).

Consequently, it would have been obvious to one of ordinary skill in the art at the time

the invention was made to modify Fijolek with switching to a different channel when the

available capacity is less than the bandwidth requested where the bandwidth is

determined before the transfer so as to reduce delay in channels and efficiently provide

dynamic load balancing in the upstream direction.

In regard to claim 3, Fijolek is silent on randomly transferring the subscriber to a

different cable data system link where the bandwidth is less than or equal to the

bandwidth to be allocated to the new user. Vogel teaches transferring a subscriber to a

different channel with a greater channel capacity when the available capacity on a

channel degrades (and thereby is less than the bandwidth requested). The transferring

of a subscriber is random because the degradation of a channel is random (See Col 13,

Lines 10-25 and Col 3, Lines 10-16). Consequently, it would have been obvious to one

of ordinary skill in the art at the time the invention was made to modify Fijolek with

switching to a different channel based on a random event so as to reduce delay in

channels and efficiently provide dynamic load balancing in the upstream direction.

6.   Claims 5 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Fijolek et al. in view of Allen (US Pat No 5,850,965).

The examiner notes that U.S. Patent 6,850,965 is a continuation-in-part of U.S.

Application No. 09/344,688 support for the Co. 23, Lines 18-57 of the patent can be

found in application 09/344,688 (specifically on pages 18-20).

In regard to claims 5 and 14, Fijolek teaches denying service if the available

bandwidth on a requested channel is less than the bandwidth being allocated. Fijolek

fails to teach granting service if the available bandwidth on a requested channel is less

than the bandwidth being allocated. Allen teaches granting services when the

bandwidth on the requested channel is less than the bandwidth being allocated but

greater than the sums of the minimum flow rates on the channel (Col. 23, Lines 18-40).

Consequently, it would have been obvious to one of ordinary skill in the art at the time

the invention was made to modify Fijolek by granting service if the available bandwidth

on a requested channel is less than the bandwidth being allocated as taught by Allen in

order to maximizing charges thereby increasing profits by using the reserve bandwidth
(Col. 23, Lines 48-57).

7.   Claims 6, 7, 15 and 16 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Fijolek et al. in view of Allen and further in view of Ito et al. (US Pat

No 6,014,693).

In regard to claims 6, 7, 15 and 16, Fijolek and Allen teach allocation schemes

but are silent on losing packets when a channel is oversubscribed and when the

packets are randomly lost. Ito teaches in a congested network (e.g. oversubscribed)

that it is common to randomly loose packets in order to effectively adjust the

transmission rates to reduce the demand on a network with a high load (Col 5, Lines 29-

44). Consequently, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to modify Fijolek and Allen by randomly losing packets in a

congested network as taught by Yao in order to effectively adjust the transmission rates

to reduce the demand on a network with a high load (Col 3, Lines 12-20).

8.   Claim 6, 8-9, 15, and 17-18 rejected under 35 U.S.C. 103(a) as being

unpatentable over Fijolek et al. in view of Allen and further in view of Selinger (US Pat

No 6,345,038).

In regard to claims 6, 8, 15, and 17, Fijolek and Allen teach allocation schemes

but are silent on losing packets when a channel is oversubscribed and when the

packets are based on levels of service, where higher levels of service lose less packets.

Selinger teaches priority ordered queues (Col 7, Lines 51-63), which give a priority to

packets having higher levels of Quality of Service (QoS), thereby when a channel is

oversubscribed the higher levels of service drop less packets (Col 1, Lines 49-63).

Consequently, it would have been obvious to one of ordinary skill in the art at the time

the invention was made to modify Fijolek and Allen by losing packets are based on

levels of service, where higher levels of service lose less packets as taught by Selinger

in order to guarantee subscribers a level of service during heavy congestion, thereby

enabling users to pay for the type of service that they would like to receive.

In regard to claims 9 and 18, Fijolek is silent on granting service to a requesting

service reserved for a second ISP. Selinger teaches granting service to a requesting

service reserved for a second ISP so as to provide a priority based bandwidth

management system. Consequently, it would have been obvious to one of ordinary skill

in the art at the time the invention was made to modify Fijolek by granting service to a

requesting service reserved for a second ISP for the stated advantage.

Conclusion

9.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to John Manning whose telephone number is 571-272-

7352. The examiner can normally be reached on M-F: 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, John W. Miller can be reached on 571-272-7353. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

JM
December 19, 2005

JOHN MILLER
SUPERVISORY PATENT EXAMINER
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